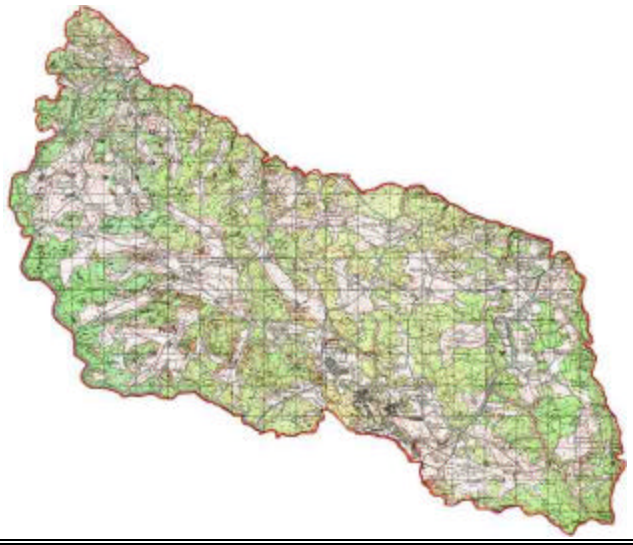
Combat Maneuver Training Center

News from the "Box"



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FOREWORD

The Combat Maneuver Training Center's "News from the Box" is designed as a direct communications channel between CMTC and our USAREUR-based commanders and warfighters.

My intent is for this document to provide a candid and open forum that provides our USAREUR training audience ground-truth observations from our CMTC observer controllers. Service as an OC is arguably one of the most professionally rewarding jobs any of us will ever have. OCs are provided the opportunity to build upon their operational experience by observing our Army's best and brightest during numerous rotations, executing repetitive missions, throughout the training year. Their firsthand experience, privileged observation of training units, and understanding of doctrine combine to make our OCs one of the best sources of information on TTPs that work and insights into potential solutions to reverse negative training trends. The following articles were written with that goal in mind.

<u>Taking a Bite Out of Training.</u> Unit training, and the planning and preparation that go into it, is not easy in a support unit. Planning, teamwork, time available, and doing the routine things "routinely" are all key elements in successfully meeting this challenge. Our job begins when the first soldier and piece of equipment arrives. So, we must train our junior leaders and soldiers at every opportunity ? one bite at a time.

<u>Six Steps to Building and Effective Observer Plan.</u> In the close support business, the positioning of ground observers to execute critical fire missions is key to the successful employment of fires and one of the hardest tasks the combined arms community has to tackle. Observation planning is the most difficult because it depends on leaders across the BCT to make it happen successfully. The six-step process provides a methodical approach to produce refined, executable, integrated, and synchronized observation plans.

<u>Battalion/Task Force Fire Support Estimate.</u> Task force (TF) fire support officers (FSO) typically fail to provide critical input during the course of action (COA) analysis. The greatest cause of this deficiency is the combined maneuver staff's failure to complete mission analysis and COA development with enough detail. A system of delegated tasks and the necessary tools are available. However, they only work when the fire support element (FSE) and staff have practiced using them and understand their specific roles.

I strongly urge leaders to take a few minutes to read these articles and relate the lessons in them to your soldiers. Use the knowledge and experience of others to concentrate your limited training resources on unit weaknesses you recognize from these articles. Your goal is combat readiness. CMTC's mission is to help you attain that goal.

Train to win!

H. Mike Davis
COL, AR
Commanding

Taking the Bite Out of Training

By LTC Ruben R. Perales, Jr.
Senior FSB Observer/Controller, CMTC

Training isn't easy for support units. I have struggled with this for twenty years and I have found the best way to conquer this beast is to eat it one bite at a time. Having served as a forward support battalion (FSB) support operations officer, executive officer, commander, and a Combat Maneuver Training Center (CMTC) observer/controller (O/C), I have seen what an effective training plan can achieve. It achieves success for all involved. It builds confidence and the ability to win on the battlefield. It brings victory.

Granted, achieving this victory is not easy. It takes planning, teamwork, and a relentless effort to achieve and maintain the Army standard. It may all sound obvious but it isn't always easy to accomplish. So, the best way to approach eating this elephant is one bite at a time.

PLANNING

The first thing we need to do is take a look at our mission essential task list (METL). These are the tasks we need to focus on first. You'll have soldiers tell you there isn't time to train because of their daily combat service support (CSS) missions. Don't believe it. There is time; you just have to seize it. Typically, most CSS units know how to do their CSS missions simply because they do them routinely. The other important tasks are the ones that get neglected. One of these essential tasks is deploying, displacing, and defending the brigade support area (BSA). So how do we plan and train for this?

The first bite starts at the lowest level. Remember, you have to build a solid foundation first. Dedicate the first quarter for common task training (CTT) and individual training and then follow up with squad and section training the following quarter. The first quarter is a prime opportunity to get your company commanders out there with their platoon and squad leadership to evaluate and validate their skills. You will hear that it's impossible because of mission requirements. A way to work around this issue is to split the sections or squads in two and leave the platoon leadership in the field. This may not be the most ideal solution but it's better than doing nothing. The first half of the unit can come in and set up the area and the follow-on unit can take it down. This saves you time that can be dedicated toward CTT and individual skills training.

By the end of the quarter, you should have had the opportunity to see your platoon and squad leaders in action conducting their battle drills. Remember, the focus is on the METL tasks, so it should be tactically related to BSA displacement and defense. You should be able to accomplish the majority of these tasks and train all your platoons within a 5-day field exercise. Once you're confident that this training has been conducted to standard and the soldiers and squads have a good understanding of the tasks needed to displace and defend their platoons, you're ready for the next bite and the next quarter.

The next small bite is to work on the collective platoon tasks. This should be organized as lane training focused at the platoon level. If the platoons are tactically proficient, companies are soon to follow. Again, the focus is on displacing and defending the BSA. During platoon lane training, platoon leaders and platoon sergeants are in charge of their team. This does a few things: it builds teamwork, allows everyone to learn from one another, and it provides the opportunity to conduct some

great after action reviews (AARs). It also teaches the platoon leadership that it's okay to make mistakes as long as everyone learns from them.

These are some great training lanes to use for defending the BSA:

- Reaction to air attack
- Reaction to nuclear, biological, chemical (NBC) attack
- Reaction to sniper attack
- Reaction to small unit ground (level 1) attack
- Establishment of fighting positions
- Mine awareness
- Convoy operations
- Medical evacuation
- Patient decontamination
- Mortuary affair operations

Let your imagination go when coming up with these lanes as long as it includes the things you want to see trained. Don't forget that each lane needs to have a training objective, supported by tasks, conditions, and standards as prescribed by applicable mission training plans (MTPs).

The battalion S3 plays an integral part in establishing these lanes based on the battalion commander's guidance. It's important to make sure the 8-step training model is followed in preparing for these lanes. Each lane should have an O/C (resident expert) who is knowledgeable and certified for a designated lane. At each lane, the platoon should have the opportunity to recon and rehearse prior to executing the lane. The goal is to train for success. At each lane, the platoon leader issues an order and then executes the lane. After executing the lane, the O/C should facilitate an AAR per **TC 25-20**, ***A Leader's Guide to After-Action Reviews.*** At the AAR, platoons identify their strengths and the tasks that require improvement, and retrain accordingly. Once this is accomplished, we are well on our way to completing our meal.

The 8 Step Training Model:

- Plan the training
- Train and certify the leaders/trainers
- Recon the training site
- Issue the training plan
- Rehearse the training
- Execute the training
- Conduct an AAR
- Retrain

The next training event is the actual displacement and defense of the BSA. In order to accomplish this, it is important that the field trains participate. Prior to this period, the field trains should have participated in the FSB's lane training and rehearsals, and have become familiar with the battalion's tactical standing operating procedures (TACSOP). The only way to achieve this is to extend an invitation to their maneuver battalion commander and ensure he includes this as part of his training plan. Most commanders are willing to have their units participate with the FSB as long as it's integrated into their training plan and coordinated prior to locking in their next quarterly training plan.

The more you train together as a team, the better off the entire BSA will be in displacing and defending the BSA.

TEAMWORK

Teamwork begins with the brigade commander's intent and his support. The brigade commander sets the tone for the entire brigade combat team (BCT) and his BSA. He ensures that his field trains and support elements are integrated into the BSA. This can only be accomplished if field trains commanders and their platoons take an active training role early in the training cycle with the FSB. The brigade commander must support a tactically strong BSA in order to achieve one.

The FSB commander should take the time to meet with the maneuver battalion HHC commanders and field trains commanders. It is important that the FSB commander lets his fellow battalion commanders in the BCT know what his training objectives are and how it involves their units. The battalion commander must focus on select METL tasks and ensure his company commanders and first sergeants help their subordinates plan, resource, and execute their sergeant's time training to meet his intent. These weekly training events should reflect the METL focus of the company and battalion commanders.

The platoon leaders and sergeants must have a good understanding of the platoon lanes to be executed and what the task, conditions, and standards are as they relate to each lane. The lanes should not be a surprise to the leadership but a goal for each platoon to complete successfully. This also will assist the platoon leadership in planning their individual and collective tasks.

SOPs must be reviewed at regular intervals and understood by all BSA tenant units. This review should begin months prior to establishing the BSA. The SOP should be covered in small bites to achieve a good understanding of what is expected from each tenant unit. A way to integrate this training is to make it part of your officer and noncommissioned officer development programs. Waiting to sort through these procedures when the BSA is given the order to deploy is too late.

One thing that is often overlooked in the CSS community is rehearsals. It is essential that CSS rehearsals are conducted across the BCT, so all the supporters and leadership in the BCT understands the concept of support. It is also vitally important that a rock drill is conducted prior to displacing and establishing the BSA. This is a great opportunity to ensure everyone involved in establishing the BSA has a clear understanding of the procedures and actions needed to deploy, displace, establish, and defend the BSA.

Other resources that are often overlooked are your CTC observer/controllers. Most times, O/Cs are viewed as bad guys in dark glasses whom you only deal with during a CTC rotation. Not true. I have found most O/Cs to be helpful and resourceful. Most O/Cs have worked with numerous units and provide a wealth of information and feedback. They also have a great amount of resources (articles and presentations) readily available. They can greatly assist by providing you their observations and identifying common shortfalls. They are part of your team and really do have a vested interest in your success.

DOING THE ROUTINE THINGS, ROUTINELY

We often hear that everything we do is training. I have found this to be a true statement and a valuable piece of advice. It is important to remember what we teach our soldiers and what they do on a routine basis will be what they do when they deploy.

If we don't teach or properly train our soldiers how to use their safety gear when conducting fuel operations, how to account for ammunition, how to properly perform preventive maintenance checks and services (PMCS), how to establish fighting positions, how to use radios, or how to conduct risk assessments, then how can we expect our soldiers to perform these tasks to standard after we deploy and our unit is scattered across the brigade rear area?

I have often found that soldiers who perform well are those who have been trained to standard. Soldiers don't purposely do things wrong, it's just that they have not been properly trained. Units can train every minute of every day. Lane training and battle drills are events that can be used to develop technically and tactically strong units a bite at a time. See figures 1 and 2 for examples of those things you can do to get yourself and your units ready for deployment:

TRAINING A BITE AT A TIME

As mentioned previously, training is not something that can be rushed. It takes a plan, teamwork, and daily emphasis. It is important that your intent is relayed to our soldiers. We must continue to pull for information and push for results. To do this, commanders need to continue to hold effective training meetings and ask themselves "Does it meet my intent and is it important?" If I only had two days to train prior to a deployment, would this be one of those events I would want to train on?

Time is a scarce resource, so let's take the advantage of the time we do have and integrate it into our daily schedule. Training is built like a pyramid, one layer at a time. It takes time and must be conducted one event at a time. So to make both ends meet, unit commanders must be imaginative and set clear training objectives each quarter for their subordinates.

Teamwork can never be overstated. It takes more than an FSB to build an effective BSA. Every unit that is expected to reside in the BSA is part of the team and is an essential member in the deployment, displacement and defense of the BSA. It is vital that these units are part of the FSB and brigade's overall training plan and mission. Soldiers are the key to success, no matter where they are on the battlefield.

Taking the time to teach our soldiers will continue to remain a part of every day life in the Army. Most of these tasks are basic in nature but form a very important foundation of how we support and fight on the battlefield. Training our soldiers must be done prior to deployment because once we deploy, it's time to execute. As supporters, we don't have the luxury to stand back and wish for more time. We must start supporting once the first soldier and piece of equipment arrives. In supporting effectively, we will find ourselves spread throughout the brigade. Time won't stop for us to train when our supported units need us most. So, we must train our junior leaders and soldiers at every opportunity. So, step back, pull out the utensils, and start eating that elephant ? one bite at a time.

PCI Standards	RED	AMBER	GREEN
UNIT BASIC LOAD (UBL)	UBL Class I, II, III (P), IV, V VIII identified for use while deployed	UBL on hand (O/H). HAZ 11 drivers identified.	Driver and all UBL uploaded and O/H.
SERVICES	Vehicles identified for services scheduled during deployment. Service packets on order. Plan in place to complete services.	Plan verified, packets, vehicles, operators and mechanics identified and O/H.	Services conducted on schedule and in tolerance
AWARDS	Soldiers departing during deployment are identified for award presentation. Awards drafted for turn-in to BN to avoid drafting awards during the deployment.	Awards turned-in according to plan and on time to BN prior to deployment to allow time for review and corrections.	Awards submitted to DISCOM on time (30days +) for ARCOMs. Awards received for presentation prior to soldier's departure
NCOERs	Soldiers departing during deployment are identified for NCOERs. NCOERS are drafted for turn-in to BN to avoid drafting NCOERs during the deployment.	NCOERs are turned-in according to plan and on time to BN prior to deployment to allow time for review and corrections and submission to DISCOM (if applicable).	NCOERs submitted to DISCOM or BN on time to allow for review and NCOs review prior to departure. NCOERs submitted on time to PSB.
AOAP/TMDE	Vehicle requiring AOAP samples are identified. Equipment requiring calibration identified.	AOAP samples taken by company according to plan. Equipment gathered for turn-in.	AOAP samples / TMDE equipment submitted on time.
FRG	FRG leaders notified and information provided during company FRG meeting. Potential issues identified.	Chain of concern submitted to battalion. Chain of concern made aware of issues.	Potential issues identified by company to rear detachment/agencies/FRG leaders. POCs are alerted prior to deployment.
GENERATORS	Generators identified, grounding rods, and BII O/H. Junction box and load bank on hand if applicable. Fuel cans available.	75 % Generators PMCS'd and FMC. 100 % generator operators identified.	90% generators FMC and dispatched. TOC/CP generator have identified backup.
DAY CONVOY	Route identified, vehicles/personnel/ convoy commander identified, convoy signs/flags/safety equipment on hand, rations and water UBL/convoy clearance	Movement rehearsal conducted. Strip maps provided. TCP and road guards identified.	Safety brief conducted prior to convoy. Road guards posted with rations/water. Vehicles PMCS'd – one last check conducted prior to departure.
NIGHT CONVOY	Route identified, vehicles/personnel/ convoy commander identified, convoy signs/flags/safety equipment on hand, rations and water UBL/chem light/convoy clearance/black out lights checked	Movement rehearsal conducted. Strip maps provided. TCP and road guards identified	Safety brief conducted prior to convoy. Road guards posted with rations/water/chem lights. Road guard vests O/H. Vehicles PMCS'd – one last check conducted prior to departure.
AMMO	Ammunition ordered in sufficient amount (by soldier & weapon system). Ammunition placed on order 60+ days out. Account clear for draw.	Ammunition drawn as planned.	Ammunition issued prior to deployment or convoy.
DISPLACE	ADV, quartering, main body, critical assets, C2 identified for movement for continued CSS. UBL identified and load plans reviewed. Personnel (PAX) or material requiring external transport/lift are identified.	Movement rehearsal conducted. Teams know responsibilities. Additional transport/lift ordered. Load plans confirmed.	Ready for movement

Figure 1

PCI Standards	RED	AMBER	GREEN
PAX	Rear detachment identified	PAX identified to deploy PAX requiring bus transportation to and from training area (s).	PAX identified by name, by task, by vehicle
TA 50	Date scheduled for PCI. TA-50 & MOPP gear inspected (gloves/overshoes and shortages identified).	Shortages ordered or replaced. Reports of survey initiated.	TA-50/MOPP gear shortages on hand
COMMO	Commo O/H (SINCGARS, PRC 127, switchboards, OE 254s,TA 312, speakers, man packs, batteries)	75 % commo equipment TI and serviced – commo checked (green/red) conducted, batteries on order	90% commo equipment FMC to include spare batteries O/H. COMMEX in green conducted (long/short range) prior to deployment.
VEHICLES	ID vehicles. Ensure safety equipment, drip pan, chock block and BII O/H. Licensed operators trained and on hand	75 % vehicles PMCS'd and FMC. 100 % vehicle drivers identified.	90 % vehicles FMC and dispatched. 90 % snow chains O/H for HMMWV +
CP/TOC	Tents/equipment/map boards/tables, metal and wooden stakes, multiple plugs outlets, light set, stoves, etc O/H	Applicable maps O/H, commo and generator FMC, reporting systems in place.	All equipment O/H and verified/tested, systems in place, to in clude trained personnel/staff
MILES	Individual and vehicles MILES identified and on order (including Dragon, TOW, VIPERS etc)	Individual MILES drawn, vehicle MILES installed and verified	All MILES equipment test fired and zeroed, 90% FMC
BRIEFS	OPORD published Seasonal safety briefing conducted	Movement and BSA emplacement rehearsal conducted	Convoy safety briefing given/ situational awareness brief presented/risk assessment conducted
TENTS/LIGHT SETS	Tents O/H and shortages and repairs identified. Light sets checked for serviceability	Tents and lights sets serviced and shortages O/H. Metal and wooden stakes and tent poles w/ ropes O/H.	Tents, light sets, poles, stakes inventoried and O/H. 90% FMC
NETS	Nets, spanners, poles, OH and shortages or repairs identified	Shortages ordered or cross-leveled. Repairs made, spanners, poles O/H/FMC	Nets inventoried and O/H. Complete systems O/H for 90% of equipment requiring camouflage
STOVES	Licensed operators trained and on hand. Stoves on hand are clean and shortages identified. Fuel and drip cans O/H. Gaskets on hand	Metal pans, fire extinguishers O/H for each stove	All stoves complete and FMC. Safety measures taken and soldiers briefed on fireguards, fire hazards. Some spare parts O/H
CREW SERVE WEAPONS	All crew served weapons / spare barrel / gloves / tripod / pintle / HS-T gauge and T&E mechanism checked and O/H for serviceability. Qualified/familiarized operators available.	Crew served weapons on hand and FMC. Soldiers familiar on how to construct range cards.	Crew served weapons test fired. 90% crew served weapons FMC and properly signed for with ammunition.
NBC	All assigned NBC equipment on hand.	All NBC equipment PMCS'd and shortages placed on order.	NBC equipment issued to NBC teams. 90% of NBC equipment FMC.

Figure 2

Six Steps to Building an Effective Observer Plan

By LTC Mark R. Mueller, Senior Fire Support Observer/Controller, CMTC

In the close support business, the positioning of ground observers to execute critical fire missions is key to the successful employment of fires and one of the hardest tasks the combined arms community has to tackle. One way to optimize observer positioning is to use reverse target observer planning ? working from the target back ? to construct an observation course of action (COA), verify the feasibility of the observation plan, and retain flexibility at the lowest level to position observers to meet a fire support task's requirements. Next, use the targeting methodology of top-down planning / bottom-up refinement to track observer positioning. Fire support doctrine directs the brigade combat team (BCT) fire support officer (FSO) to "position observers effectively and maximize use of lead maneuver forces to call for fires."[1] Doctrine does not have much more than this to say about observation planning. The "how" of the positioning of observers is too important not to consider it in detail during planning, especially as it enables flexibility during execution. Reverse target planning and top-down / bottom-up observation post (OP) refinement include valuable tactics, techniques and procedures (TTP) to assist in this process.

The Problem: Traditional methodology has the task force (TF) FSO developing routes and observation posts that should enable the observer to move to, occupy, observe, and destroy his target. Yet, at no time is the feasibility of the plan addressed. Draft **FM 3-09.4** charges the BCT FSO to:

"Construct an observation plan in concert with the S2 and S3, and use *TerraBase* computer programs to assist with position selection… The observation plan should address where the observer needs to be, security, communications, how the observer gets into position, what the observer is to accomplish, and disengagement criteria if necessary."[2]

In many cases, the BCT associates targets with observation tasks and assigns observers. Unfortunately, the BCT does not take the next step to associate observation posts with these targets as well. Where an observer is going to observe from and how he is going to get into position as part of a larger maneuver plan, is never addressed. The BCT delegates responsibility to plan and execute observer positioning to the TF FSO or the combat observation and lasing team (COLT) platoon leader. **FM 3-09.30** states that "if the brigade FSO has provided a complete top-down fire support plan, the battalion task force FSO is primarily focused on understanding and refining that plan, not inventing a new one."[3] The observer plan, the "O" in PLOTCR, must be part of what the BCT directs or, better put, provides direction from.

Target Requirements:

P: Purpose
L: Location
O: Observer
T: Trigger
C: Communications Plan
R: Rehearsals

The problem is one of balance between too much or not enough BCT direction for observer positioning. In the case of not enough direction, the BCT tasks an observer to attack a target, but no specific guidance is given to the subordinate unit that will enable it to complete this task. The TF FSO has some capability to determine observer placement options but little experience and no knowledge of the overall observer plan. Company FSOs do not have the tools to choose an effective OP site that

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[1] Revised Final draft to **FM 3-09.4,** ***Tactics, Techniques, and Procedures for Fire Support for Brigade Operations,*** Headquarters, Department of the Army, Washington, DC (pending date), Para 4-33.

[2] Ibid, Para 3-48.

[3] Final Draft to **FM 3-09.30**, ***Tactics, Techniques, and Procedures for Observed Fire and Fire Support at Battalion Task Force and Below***, Department of the Army Washington, DC, 31 May 2001, Para 2-14.

is both synchronized with his company/team (Co/Tm) scheme of maneuver and the overall scheme of observation. This is particularly the case during offensive operations.

In some cases, too much direction comes in the form of a top-down observer plan similar to the plan depicted in figure 1. The BCT plans (top-down) OPs and there is little to no flexibility to enable the scout platoon, brigade reconnaissance troop, or the maneuver company commander to refine observer positions or maneuver to "maximize use of lead maneuver forces to call for fires."[4] This directive methodology is inefficient with limited numbers of scouts and COLTs getting into position to attack multiple targets and even fewer maneuver shooters or company fire support teams (FISTs) making it to their OPs. This type of plan does not allow maneuver commanders the flexibility to integrate their OP occupation requirements into their overall scheme of maneuver. The observer movement plan is BCT directed. Therefore, efficient positioning and flexible execution are out of the question; the routes and OPs are centrally directed with no capability to incorporate OP options. Further, as the target is refined, or as the situation during execution changes, there is again little flexibility to refine the observer plan. With little or no analysis, the observer is told to get eyes on a certain target. This most often results in on-the-fly planning, hindering observers from making it to effective observation posts. This type of plan is not synchronized with the scheme of maneuver and therefore, often ignored.

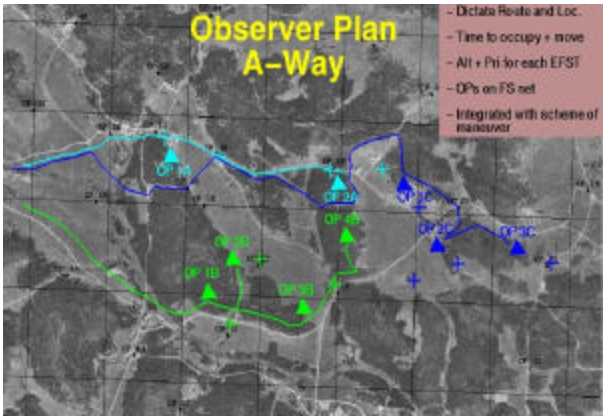

Figure 1: Traditional Observer Planning TTP

The answer to effective observer planning is to treat it like targeting. Observer positioning needs to be top-driven with a requirement to provide detailed refinement in order to ensure efficient target attack. Using a six-step observation planning TTP which works from the target back to identify the options and efficiencies for observer positioning (reverse targeting methodology), the maneuver commander can then refine observer locations with positions that are feasible and better synchronized with the maneuver plan. A reverse target observer plan also provides the observer and commander the data to rapidly adapt that plan during execution if a planned OP becomes untenable using a line of sight and risk estimate diagram (LRED).

Six Steps to Building an Observer Plan (Working from the Target Back):

Step 1: Determine the Targeting Objective: The first step in the targeting process is to determine the battlefield effect that the commander would like fires to achieve ? the targeting objective. **FM 3-09.4** states that the FSO will develop essential fire support tasks (EFST) during mission analysis. In planning for observation, "it is important that the FSO and commander have a common understanding of what fires must do to support the operation before the FSO begins to develop the "how to do it."[5] In fire support doctrine, the targeting objective must be clear, as the objective may result in the development of two or three targets on the ground that are used to describe where fires will achieve the objective. For example, a delay objective may require that fire support attack a moving formation several times with different assets in different locations. In planning for observation, the fire support coordinator (FSCOORD) or the BCT FSO must consider each objective and determine how many observers may be required to meet this task. The FSO must also make an assumption on the number

[4] Ibid, 4-33
[5] Final Draft to **FM 3-09.4**, ***Tactics, Techniques, and Procedures for Fire Support for Brigade Operations,*** Para 3-19.

of redundant observers needed to meet a targeting objective. As with the development of relative combat power ratios described in **FM 5-0**, the BCT FSO should look at the enemy capabilities and assess friendly tangible factors (such as equipment, weapon systems, and units) and intangible factors (such as morale and training levels) along with METT-TC to determine the number of redundant observers required for each target.[6] As an example, the FSO may look at using a 3:1 ratio of observers to targets for the deliberate attack. That means he would plan three observers with observation of each essential target. At this point, this is simply a rough idea of the requirement. The FSO must refine that requirement after he determines the attack method and observation suitability in step 2 and determines observation feasibility in step three as the FSO further refines an observation course of action. During this step it is simply important to determine how many tasks are really within the gross observation capability of the fire support system.

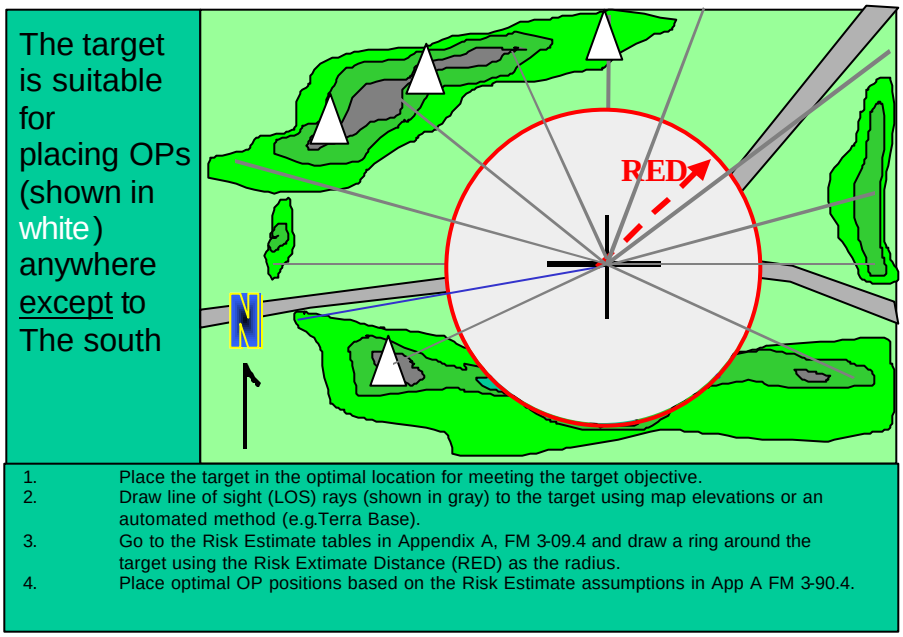

Figure 2: Determining Target Suitability

Step 2: Determine Target / Observation Suitability: Once the target objective for an EFST is determined, the targeting team (FSO, XO, S3, and S2) must determine where it can attack the enemy formation to achieve the targeting objective and establish a target. In support of the observer plan, the FSO then determines whether or not observation is suitable for that location. That is, whether or not the planned target meets observation requirements and complies with the commander's risk estimate guidance. To do this, he must first determine line of sight (LOS) to each target. The FSO simply draws a line out from the target to a point of higher elevation for the area all the way around a target (see figure 2). LOS analysis enables the FSO to verify that observers can detect and assess the effects of the target for where it has been placed. In many cases, LOS cannot be established at the point of round impact ? the target. This is especially the case in areas of very constricted terrain where a moving target is the most vulnerable, such as a narrow pass or defile. In this case, the FSO must determine LOS from where the observer can see the target to trigger fires and from where he can see the target area to assess the result.

After the FSO has determined LOS, he must determine how to best attack the target to meet the targeting objective. This is the first portion of the method for an EFST. In preparation of the observation plan, the FSO determines the attack method (105 or 155mm cannon, rocket, or close air support). Then, using risk estimate distance (RED) assumptions and tables from Appendix A, **FM 3-09.4**, he draws a circle around the targets using the risk estimate distance as the radius for the circle. Once the risk estimate surface has been determined for a target (or group of targets), the FSO matches the LOS for each target to the risk estimate ring around the target to ensure that the observer can observe the target without being within the possible effects radius of the delivered munitions. If LOS

[6] Paraphrased from final draft to **FM 5-0**, ***Army Planning and Orders Production***, 15 July 2002, Para 3-97 to 3-100.

is available from the target to a location outside the risk estimate ring, then observation of the target is suitable in that it accomplishes the mission and complies with the commander's planning guidance for risk to observers. Although this process can be done manually, it can also be done using *Terrabase* or any other terrain-based software.

Step 3: Develop the Observation COA: With the completion of step 2, the FSO has a LOS diagram and risk estimate ring for each target in the fire plan and has determined that observation of each target is suitable. Now the FSO must work in concert with the S2 and the S3 to create a feasible observation COA that supports and is integrated with the reconnaissance and surveillance (R&S) and maneuver plans. The developed COA must be one that the unit can accomplish with available time, space, and resources.

During step three of the observer plan development, the FSO must take his LOS and Risk Estimate Diagram (LRED) and look for cover and concealed positions along the LOS to the target and outside of the LRED where an observer could be placed to provide target observation (see figure 3).

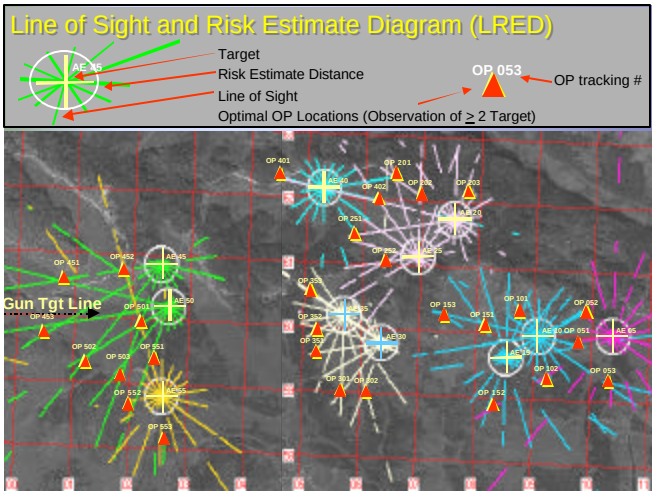

Figure 3: Example Line of Sight and Risk Estimate Diagram

Remembering the assumed requirement for observer redundancy developed in step 1, the FSO must now look at efficiencies to gain at least three sets of observers with redundant observation of each target to ensure coverage. The FSO develops these efficiencies by analyzing his LOS diagram and looking at where the LOS crosses for two or more targets. He places an optimal observation point at each of these locations and assigns an OP tracking number associated with its linked target. Next, the FSO must "plan the operational requirements for getting them [Observers] into position to be able to support the execution of fires" by integrating his LOS plan with the R&S plan, the S2 and the FSO link NAI / TAI [named/target areas of interest] to scout / COLT observer OP and target assignments.[7] Then the FSO links further OPs and observation tasks that Co/Tms must accomplish with the scheme of maneuver. During the development of this COA, especially through the wargaming phase, the FSO must use battlefield calculus to ensure that the time to move to the assigned OP (whether through scout/COLT infiltration or Co/Tm maneuver) and the time to acquire the target meets the timing required for target attack. Concurrently, he must verify that the OP, while a great position for observation, can be occupied based on the difficulty of terrain that the observer must traverse to get into position. Finally, the FSO must align OPs to resources. Remembering the survivability ratio developed in step one, targets, especially those that support EFSTs, must have redundant observation. Any OPs assigned to maneuver teams must consider FIST survivability as well as the number of maneuver shooters that may be pulled ? at least until the observation task is complete, after the direct firefight. Additionally, the FSO must consider options much as decentralized FIST employment vice centralized employment.[8] If the unit can accomplish the mission having considered time, space, and resources available, it is feasible.

[7] Ibid para 3-25

[8] **FM 3-09.31**, ***Tactics, Techniques and Procedures for Fire Support for the Combined Arms Commander,*** paragraph 4-18, provides a very thorough list of questions that the COA should answer for each EFST.

Once the observation COA is determined to be both suitable and feasible, the FSO must verify with the FSCOORD, and ultimately the brigade commander, that the tactical advantage gained through attacking the targets is acceptable as it corresponds to potential casualties or the pulling of direct fire assets or scouts from their primary missions. If the cost in resources is unacceptable, then the FSCOORD and the BCT commander must go back to the supported task / EFST and determine if there is another means of accomplishing this task without the use of ground-based observers or of developing some risk mitigation measures to increase the acceptability of the COA.

Step 4: Task Observers and Observation Points in a Top-Down Observer Plan: Once the FSCOORD and the commander have approved the observer COA, the S3, not the FSO, must task the units to provide observation of key targets. Paragraph 3-48 of **FM 3-09.4** states that this plan should be incorporated in the fire support plan and this implies that it is also incorporated into the R&S plan. Both are fantastic but not enough. The FSO must write the target and observation tasking into the scheme of fires paragraph and the S3 must task observation as a unit-specified task in paragraph 3 of the base operations order (OPORD). Aside from the brigade COLTs, the FSCOORD and the FSOs have no authority apart from the maneuver commander to resource target and observation requirements. There must be a clear tasking for observation. These fire support tasks, if related to an essential fire support task, cannot be buried in the fire support annex. Unfortunately, if they are, the execution of targets becomes a fire supporter problem, not part of an overall combined arms plan. The best fire support plan is one that is integrated and synchronized with the maneuver forces ? no one plan subordinate to the other ? but both working as part of a combined arms effort.

When the OPORD lists observer taskings, it cannot simply end with a tasked unit but must provide both the assigned unit and associated OP. **FM 3-09.4** consistently requires that the order list a primary and alternate observer. For example, paragraph 3-26 of **FM 3-09.4** lists observer assignments in the method portion of example EFSTs as unit assignment. Nowhere does it provide top-down guidance on how the FSCOORD envisions the physical layout of the overall net of observers. Addressing the "who" of the observer plan, and neglecting the "how" means that observer positioning is not a synchronized effort, but left to chance. Often, unit assignment of responsibility to execute a target is where the observer planning stops.

In step 4 of developing a top-down observer plan, the tasking for the target must provide the assigned unit a clear task and purpose linked to a target and associated observation points in order to round out the method. How the observer gets into position is in accordance with the unit-directed scheme of maneuver. For example, a method for observation might read:

> TF 3-316 IN maneuvers to and establishes observation of AE 0030 from OP 301 and 302 NLT 0530 hrs to neutralize a suspected AT-firing line to limit enemy ability to impede BCT movement along AXIS ARROW. OPs may disengage once TF trains are in position at CP 3.

This plan is top-down, and it may change as the enemy situation and the maneuver plans of subordinate units are refined ? bottom-up refinement. However, the positioning of observers to accomplish fire support tasks is well defined, and targets and related OPs are as linked in task and purpose as a maneuver unit being told to occupy an attack by fire position (ABF) in order to enable the attack to seize an objective. Observation for the attack of targets is part of the overall reconnaissance net that the BCT casts out in its area of operation to "prevent fratricide and to synchronize the collection effort…"[9] Observer planning is too important to leave to chance. Top-down tasking of a synchronized

[9] **FM3-90.3,** ***The Mounted Brigade Combat Team****,* 1 November 2001, para 4-61.

observation plan ensures that the plan is part of an overall maneuver plan. It is however, still an unrefined plan.

Step 5: Refine and Rehearse the Observer Plan. FM 3-09.31 states that target refinement, as well as the combined arms rehearsal, are "two key events… that have the capability of adding to the level of synchronization between maneuver and fires for the upcoming mission."[10] In relation to planning observation from the target back, a change in target location, if not updated, could invalidate the entire observer COA. Therefore, during target refinement, the fire support element (FSE) must continually go back to steps 2 and 3 of the process to ensure that changes to the target location do not change the suitability, feasibility, or acceptability of the observer plan. This means that the FSE must take each new / refined target and verify that LOS to an OP or risk to the observer assumptions based on the movement of the risk estimate radius are still valid. The FSE must also revalidate risk estimate assumptions based on refined battery location data.

Finally, the FSE must update the LRED to ensure that the refinement of targets or observation posts does not alter the efficiency of the observation plan. For example, if a TF has requested to change OP 301 to another grid ? which now causes the observer to only see his primary but not alternate target ? there may be a problem because this desynchronizes the observation plan. Finally, as task forces or teams add targets, the FSE must be ruthless in ensuring that each new target has an assigned observer (not already tasked as part of the existing observer plan) and is resourced with suitable observation posts. Even if the target is part of a contingency plan, the target must have an observation plan to go with it. A TTP for tracking target / OP refinement is to number targets in fives (e.g. AE0005, AE0010), then with each refinement add one number (AE0006, AE 0011). The related OPs can be named along with its corresponding target (e.g. OP 051 becomes OP 061). As units refine OPs and targets, the FSE must update the LRED and ensure that LRED is finalized after target refinement cut-off. It also must have prepared final distribution of this product before the supporting and combined arms rehearsals.

Paragraph 3-83 of **FM3-90.3** states that the "commander and staff must ensure all shaping efforts are creating the conditions for the decisive effort to succeed." The primary forums to ensure the synchronization of fires and observation are the combined arms rehearsal, the fire support and the intelligence, surveillance, and reconnaissance (ISR) rehearsals. They also culminate the target and observation plan refinement process.

The fire support community's first opportunity to verify synchronization is the ISR rehearsal. During this rehearsal, the FSO should verify two things. First, he must verify that there are no planned BCT R&S assets within the projected risk estimate distances for each of the targets. Second, he must verify that subordinate unit observation tasks and observer locations are in accordance with the observation and fires plan. Finally, the ISR rehearsal is a great opportunity to look at other assets that may be positioned in areas where they would have LOS on a target and could provide alternate observation if necessary.

During the fire support rehearsal, the FSCOORD and BCT commander must ensure each subordinate unit understands the PLOTC (of PLOTCR) for each fire support task. They must verify that the subordinate unit not only understands they have an observation tasking, but that they understand and have synchronized observation post occupation and disengagement requirements. Under no circumstances should the FSCOORD allow the subordinate commander or FSO provide a general response to how he plans to execute a target. The "O" of PLOTC must include OP specific location and must identify the observer down to call sign and bumper number. Too often, the subordinate FSOs

[10] **FM3-09.31**, para 4-30.

merely state that a company FIST is a primary observer with the company commander designated as an alternate. Unless these two personnel intend to physically occupy and observe the target, they have not developed their observation tasks in sufficient detail. In support of observer planning during the combined arms rehearsal, the FSCOORD must identify any unresolved issues developed during the fire support or ISR rehearsals and verify that everyone understands target risk estimate distances and observer maneuver requirements. In the observation plan, the rehearsal is the last chance to synchronize observer actions before crossing the line of departure. If the observer plan and maneuver plan are not well understood during this rehearsal, the fires plan is also in jeopardy, as the detect and assess requirements of the targeting process (D3A ? decide, detect, deliver, assess) has not been synchronized.

Step 6: Monitor and Adjust Observer Plan Execution: The ability of FSEs at all levels to monitor the execution of the observer plan is critical to the success of fires as a whole. The FSE must be able to monitor the situation and "ensure synchronization of available fire support assets to place the right attack means on the correct target at the precise time."[11] In the case of observer planning, a fire support asset is any assigned observer whether he wears crossed cannons or any other branch insignia on his collar. From the company FIST and COLT platoon leader to each FSE, TF and BCT, the positioning of observers must be tracked and adjusted. This is because observers may be lost through enemy contact or the targets may change based on enemy action. The BCT commander and the FSCOORD must be constantly kept abreast of any loss of observation of critical targets during execution. In this manner, the BCT staff is able to adjust execution through "continuous evaluation of the progress of the operation in relation to the desired end state, anticipating outcomes, and making adjustments to meet the end state."[12] OP locations must be known and understood throughout the BCT, not just within the fire support system, so like any maneuver graphic, there is a means to rapidly relay fragmentary orders to adjust execution. The FSE must use the LRED to ensure that it can provide advice on other OP locations if maneuver execution renders some planned OPs untenable. In this case, the LRED becomes a tool to maintain observer-positioning flexibility during execution.

Using the Six Step Process: Reverse target observer planning (working from the target back) to verify the feasibility of the observation plan and retain flexibility at the lowest level to position observers and using "top down planning / bottom up refinement" to position observers certainly optimizes and synchronizes observer positioning across the BCT and ensures the development of a feasible and flexible observer plan. Fire support doctrine reinforces the need to detect and assess the effects of fires to meet critical fire support tasks and the six-step process provides an effective TTP to make this happen. In the end, the process, like all fire support, must be more than a field artillery plan. If only field artillerymen develop a plan and attempt to execute it, the plan has a very poor chance of succeeding. "Synchronized fire support requires the coordinated interaction of all of the elements of the fire support system, thorough and continuous planning, aggressive coordination, and vigorous execution."[13] Observation planning is the most difficult because it depends on leaders across the BCT to make it happen successfully. The six-step process provides a methodical approach to produce refined, executable, integrated, and synchronized observation plans.

[11] **FM3-09.4**, para 3-91.
[12] **FM 3-90.3**, para 3-73.
[13] Final Draft **FM 3-09** (**FM 6-20**), ***Doctrine for Fire Support***, 16 November 2001, para 1-04.

Battalion/Task Force Fire Support Estimate

By MAJ Daniel J. Dudek,
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Task force (TF) fire support officers (FSO) typically fail to provide critical input to the plan during the course of action (COA) analysis. The greatest cause of this deficiency is the combined maneuver staff's failure to complete mission analysis and COA development with enough detail. To overcome this, the TF FSO needs to maintain a current and accurate fire support estimate and to take the time after reviewing the directed COA to refine his fire support products for COA analysis (wargaming). A system of delegated tasks and the necessary tools are available. However, they only work when the fire support element (FSE) and staff have practiced using them and understand their specific roles.

What is the Fire Support Estimate?

Field Manual 5-0 (final draft), ***Army Planning and Orders Production,*** appendix E, discusses staff estimates. Page E-1 of **FM 5-0** states, "During planning, the most important decision the commander makes is selecting a COA on which to base the plan. Thus, during planning, staff estimates focus on supporting that decision". All staff sections continuously maintain their respective estimates. **FM 5-0** also states that the military decision making process (MDMP) is the mechanism that produces each staff estimate. A staff estimate consists of significant facts, events, and conclusions. The minimum fire support significant facts should include the following:

- Company fire support team (FIST) status.
- Ammunition availability (translated in maneuver terms).
- Indirect system availability.
- Assigned combat observation and lasing team(s) (COLT) task and purpose.
- Fire support coordination measures (FSCM) impact on current operations.
- Communication status.
- Maintenance and equipment status.
- Current essential/fire support tasks (EFSTs/FSTs) the TF is responsible for.
- Commander's intent for fires.

When Are We Ready to Start Wargaming?

During the planning time crunch at combat training centers (CTCs), TFs often use an abbreviated planning timeline. This usually means that immediately following the mission analysis and commander's guidance, the S3 or commander presents a directed COA that does not incorporate input from battlefield operating system (BOS) element representatives. From the eyes of a TF FSO, he's just returned from the brigade (BDE) operations order (OPORD) with the commander. He spends about 10 minutes talking to the fire support noncommissioned officer (FSNCO), plots all the information he can from the BDE fire support annex on to his personal (not section) map, and tries to eat just prior to giving his portion of the mission analysis brief. For the first time, he sees the directed COA that the S3 worked on while the FSO was at the BDE TOC. He hasn't had time to analyze what the BDE FSO gave him. He only knows 10 minutes worth of the problems from the FIST teams and the COA doesn't fit his understanding of what he thought the BDE commander told the TF commander to do. After the commander gives his guidance, the XO announces that the wargame will

start in 30 minutes. ***This is exactly the point in the planning process where the FSO takes a giant leap behind the power curve and never truly recovers!***

FSOs must develop the COA with a concept of fires to include a fire plan, observer plan, and a list of high payoff targets, each with clear attack guidance to prioritize effort. The concept of fires must include well developed EFSTs and FSTs. There should already be a plan for *how* to integrate fires (concept of fires), and during the wargame the staff sets the plan to synchronize *when* to integrate those fires (scheme of fires). With all the tools available, most FSOs know how to gather the required information and convert the data into maneuver language. However, if the staff says they are ready, the XO or S3 often starts the wargame very soon after presenting the directed COA.

When the staff uses a directed COA, the FSO must get some time from the XO to complete the staff estimate. Many FSOs fear holding up the staff planning process by being the only staff members who are not truly ready and won't speak up. Without coordinating with the S2, S4, engineer, and mortar platoon leader, the FSO will probably only generate a fire support annex (matrix) filled in with generalized/unsynchronized fire support guidance for unsupportable EFST/FST accomplishment. As a result, the company FISTs are forced to execute an unsynchronized/unsupportable plan and often end up violently executing within the best interests of their supported company, not even remotely aware of the BDE scheme of fires.

Can We Find Help in Army Doctrine?

The outputs for mission analysis and course of action development in **FM 3-09.30,** ***Tactics, Techniques and Procedures for Observed Fire,*** pages 2-2 and 2-10, seem relatively easy to accomplish while reading; however, you must go beyond chapter 2 of **FM 3-09.30** to get to the details that make those outputs worthwhile. The right tools and answers are found throughout the new fire support manuals, CALL publications (**CALL Handbook, No. 02-13,** Oct 02**,** ***The Brigade Targeting Officer's Handbook***), and ***FA Journal*** articles. CTC observations and trends show that FSOs know where to look but haven't prepared prior to rotations to best gather the information to be the field artillery expert in the staff. Additionally, FSOs don't know how to best use their FSNCOs, or what fire support information is pertinent during the TF MDMP.

The Fire Support NCO Maintains the Fire Support Estimate.

When the FSO leaves with the commander to go to the BDE OPORD or fragmentary order (FRAGO), the BDE FSNCO can send information to the TF FSNCOs describing types of missions, assets coming from BDE such as COLTs, or organic assets that must be detached, such as tactical air control parties (TACP) or forward observer (FO) teams. The FSNCO can gather the status on the following no matter what the next operation will be:

- **Maintenance status** – How many fire support vehicles are still working? How many ground/vehicular laser locating devices (GVLL/Ds) are operational? Who needs radio, GVLL/D or precision lightweight global positioning system receiver (PLGR) batteries? Does the fire support element (FSE) generator still work? Did anyone lose anything important like a compass?

- **Personnel status** – Highlight those who are at high risk for driving. Do we need to move any soldiers to different teams? (The FSNCO usually knows best about individual soldier skills.)
- **Communication status** – Get everyone back on the net to give guidance in preparation for the upcoming mission. Re-establish the reporting requirements.
- **Organic fire support assets available** – Verify the artillery and mortar tube strength remaining, and review mortar haul capacities.
- **Status of upcoming requirements** – Knowing whether the upcoming mission is offense or defensive will be enough to initiate requests for ammunition, intelligence products, and to establish a focus for precombat inspections (PCIs).

While the fire support specialist or driver helps to gather this data, we can prepare the tools needed for mission analysis. Though the TF FSO has his map board, we can clean up the targeting overlay on the planning map, fill out the mission analysis briefing boards, and get a new Annex D (fire support annex) ready to fill out.

The TF FSO at the Brigade TOC.

Prior to leaving the BDE area, the TF FSO must have a general understanding of the BDE scheme of maneuver and a detailed understanding of the BDE scheme of fires. This is the last time the TF FSO can have a meaningful discussion with the BDE FSO prior to the BDE fire support rehearsal. The more questions the TF FSO is left with about the BDE scheme of fires, the more likely he ends up planning TF fires in a vacuum and the less he will be able to support the BDE scheme of fires. Once the TF FSO understands the TF responsibilities in the BDE scheme of fires, he calls his TF FSE from the BDE FSE location and passes as much information as possible to help convey the BDE intent for fires. This allows the TF FSE to provide a more detailed warning order to the company FISTs and is especially helpful in the event that the TF FSE cannot make it back to the TF TOC in a timely manner.

Mission Analysis is Near Completion Prior to the FSO's Return.

Prior to the FSOs return, the assistant FSO (Plans) or FSNCO fills in the mission analysis briefing charts with the current data. Once the FSO arrives at the TOC, he reviews the briefing charts and FS TOC charts, ensures the data matches the BDE's with additional assets, and then completes mission analysis by finalizing the draft EFST, specified / implied tasks, constraints/limitations, restrictions, specific rules of engagement, and pertinent additions to the commander's critical information requirements (CCIR). Then the FSO and/or his AFSO plots BDE targets, no-fire areas and restricted fire areas (NFAs/RFAs), planned family of scatterable mines (FASCAM) targets, tentative COLT positions, and artillery positions with range arcs, both on the planning map and FSO map board. The map board in the FSE maintains only current information. During this time the AFSO helps the S2 write the target acquisition and surveillance plan. Most S2s don't need or want the FSO's help during this planning phase, but **FM 3-09.30**, page 2-2, show this as part of the AFSO duties. Also, pages 2-6 and 2-7, paragraphs 2-18 thru 2-22 discuss what he can do to help. Once this is complete, the FSO rehearses the fire support portion of the mission analysis with the XO and/or FSNCO present.

The FSO Must Listen to the Mission Analysis Brief.

Many FSOs don't pay attention to the other staff officers during the brief and often ask questions later in the planning process concerning information already covered. Here are some of the common areas where FSOs miss some important information:

- **S2**: Brigade targets should match named/target areas of interest (NAIs/TAIs) ? this is an early sign of a disconnect with the BDE/TF S2 and the BDE FSO.

  - How far out (or close) is the brigade reconnaissance troop (BRT)?
  - Where/when is the enemy decisive point ? when are our FA units firing counterfire missions and thus unable to provide battalion volleys?
  - Where does the S2/TF commander want to put the scouts (OBJ/NAI)?

- **Engineer**: Obstacle locations should correspond with the BDE target list (this is an early sign of a disconnect between the BDE ENG and BDE FSO).

  - How long will it take to breach? (This tells us how much smoke we need.)

- **S4**: Specify the required and controlled supply rates (RSR/CSR) for ammunition. How much smoke are we getting for mortars? (For the offense, doctrine prescribes 70% high explosive (HE), 20% smoke, and 10% illumination; in the defense, an ideal combination is 20 % HE, 70% smoke and 10% illumination.

- **S3**: Include the BDE concept of the operation, as well as TF specified and implied tasks. Here is the opportunity to see the S3/XO's plan. (Get on board with the battalion staff and start preparing to resolve conflicts with the BDE scheme of fires and the TF scheme of maneuver).

Write Down or Get a Copy of the Commanders Guidance.

If you don't have the commander's guidance written down in hard copy, you're setting yourself up for failure. The TF commander will work hard on his guidance and will continually restate his intent to resolve issues throughout the MDMP.

Pay Me Now or Pay Me Later.

There are several COA development questions that are asked of the FSO during wargaming that if not answered can completely hold up the planning process and serve only to frustrate the XO, S3, and the entire staff. Planning continues only after someone (not always the FSO) makes educated guesses. Once the staff learns the correct answers later in the MDMP, they don't go back to ensure that the changes don't desynchronize the plan. The ability of the FSO to resolve issues quickly during the wargaming session is based primarily on the confidence and experience levels he displays. Often, the success of fires integration is dependent more on the personality and the positive interaction of the FSO rather than from an analyzed concept of fires. It is not likely that an FSO can go back to work out the details of his fire support estimate after the wargame or the TF OPORD and have time to provide meaningful updates to the scheme of fires. The XO must provide the FSO time to update his

estimate and develop the COA(s) with fires prior to conducting the wargame. After the TF OPORD, the price is much higher to pay.

The Three Most Damaging Disconnects.

The TF FSO generally understands the BDE commander's intent; TF maneuver staffs rarely do. The **first disconnect** that frustrates the TF FSO is a BDE fire plan (scheme of fires) that in no way helps in the planning of fires to support the TF scheme of maneuver. Usually, there are too many BDE targets in the TF sector that cannot be resourced by FISTs or TF scouts. BDE FSOs expect a lot of refinements, but most BDE fire plans offer very little usable targeting information. In serving two masters (BDE FSO and maneuver commander), the FSO must often choose whom to support. Of course, the FSO chooses his maneuver battalion, not only because he eats and sleeps there, but also because synchronization has to occur at the lowest level possible. The end result is a very weak TF effort to execute within the intent of the BDE scheme of fires. Most FSOs understand that they cannot ignore or completely change BDE EFSTs and work to integrate those BDE EFSTs into the TF plan. However, FSOs often manipulate (not refine) the BDE EFST wording in order to accomplish a similar EFST that supports his TF at a different time and location. If this were mere refinement, this would be simply bottom-up refinement; however, these changed BDE EFSTs use the allocated BDE resource but divert BDE fire resources away from the FA battalion commander's intent for fires. Other than the BDE FSO displaying an inability to plan fires (which is rarely the case), here are five possible reasons to explain why this happens:

- The FSO left the BDE OPORD without an understanding of what the BDE FSO wants him to do.
- The TF S2 is using a completely different enemy situational template (SITTEMP) than the BDE S2, forcing an incompatible TF-directed COA from the BDE wargamed COA.
- An S3 or XO, after only reading the BDE order and BDE concept of operation, is allowed to develop an independent COA without enough TF commander guidance.
- The TF commander understands the BDE commander's intent but decreases or expands the TF role to account for inappropriate or unnecessary assumptions.
- The TF commander doesn't understand what the BDE commander expects him to accomplish.

The **second disconnect** is the FSO/S2 observer plan. FSOs/FSNCOs always work closely with the S2 section to ensure the scouts have NFAs protecting them. The majority of offensive fire support plans list TF scouts as primary and alternate observers for most of the TF targets. We know that the S2 provides critical input during the decision function of the targeting process. However, TF staffs treat the collection plan for scouts and the fire support observation plan as two separate events. Obviously, we want the FO teams, scouts and enlisted terminal attack controllers (ETACs) to look for the same priority intelligence requirements / high payoff targets (PIR/HPTs) that we want to deliver indirect fires against. In other words, the TF collection plan and the TF observer plan are dependent upon each other. In order to create a viable TF observation plan, the FSO and S2 have to develop the plan together during COA development, analyzing the observation posts (OPs) in relation to the named/target areas of interest (NAI/TAI) and assigned targets to ensure redundancy and flexibility. Additionally, the targets must answer the six requirements of a target: purpose, location, observer, trigger, communications, and rehearsal (PLOT-CR); and must be tied to NAIs/TAIs, which support specific information requirements (SIRs) or specific orders and requests (SORs) that answer PIR. Below is an example of how a target designed to disrupt a lead armor/mech formation from maneuvering past a choke point as a cohesive unit may meet the six requirements of a target. Most of

the discussion would be in the unit's standing operating procedures (SOPs) and would not need to be stated.

- **Purpose** – Provide time for Alpha company (Mech) to occupy a battle position (BP) vicinity engagement area (EA) Kill to destroy lead armor/mech forces piecemeal.
- **Location** – Target AK2050 (vicinity PV981623). NOTE: The refinement of the target location must support the company commander's scheme of maneuver.
- **Observer** – 1st platoon FO team, Alpha (Mech) FIST at OP 5 or OP 6. NOTE: The refinement of the OP must support the company commander's scheme of maneuver.
- **Trigger** – 1st platoon, Alpha company FO team initiates do not load (DNL) mission (tactical trigger) upon Saber 2 (scout team) firing of target AK2100 (TAI 33); or Saber 4 sees armor/mech formation moving through NAI 37 (technical trigger). Refine the target location and emplace trigger markers for limited visibility (night, smoke, fog) to best support the situational obstacle. NOTE: 1/A FO team learns of Saber 2 or 4 reports through TF FSE or scout platoon leader on the Alpha company (Mech) frequency.
- **Communication** – 1/A FO team calls target AK2050 on company command frequency and A (Mech) FIST relays call for fire to TF mortars on TF fires frequency. This is cleared by the TF FSE, who also relays target AK 2050 to the BDE FSE to fire with 155mm field artillery (FA).
- **Rehearsal** – Ensure the refined OP and target are sent to the TF FSE prior to target cutoff (ideally before the TF combined arms rehearsal/fires rehearsal) and ensure the technical trigger is rehearsed with an actual vehicle from the OP. (The TF FSNCO should supervise/ensure this happens). The A (Mech) FSO briefs the details at the TF rehearsal.

The TF observation plan should come in the form of a combined S2/FSO collection / observation plan overlay. The S3 needs to see this before the R&S wargame.

The **third disconnect** is the presence of the mortar platoon leader in the TF TOC. CMTC observations show that only the occasional platoon leader takes an active part in the MDMP. Additionally, TF FSOs fail to plan for the mortars in the required detail. Although they plan several mortar firing points and triggers to move to range the TF's scheme of maneuver, they rarely tie those moves to events when the TF will need those fires. TF FSOs rarely provide planning guidance for mortar ammunition management. Below is a general guide for mortar platoon haul capacity:

- 69 rounds per mortar track
- 320 rounds (8 x 40 round pallets) per heavy expanded mobility ammunition trailer (HEMAT)
- 120 rounds (3 x 40 round pallets) per 5-ton truck

The 120mm mortar tracked vehicles cannot maintain a 6400 mil firing capability unless the tubes are dismounted. They must shift the track for any fire missions that fall outside the traversing limits while mounted on the turntable. The traversing limits are 858 mils right of center and 808 mils left of center. TF FSOs often rely on mortar fire direction centers (FDCs) to generate a direction of fire and are surprised when missions take longer to fire because the tracks must relay after adjusting the orientation of the track. Though it's the responsibility of the mortar platoon FDC with the mortar platoon leader to establish the best direction of fire, the TF FSO must ensure the mortar platoon leader understands the TF scheme of fires. The biggest oversight, however, is the reluctance to push survey and meteorological data. The combinations of all these factors cause the mortars to be inaccurate and

unresponsive. Most mortar platoons are aggressive enough to get in the fight, but don't find enough specific guidance in the TF OPORD (primarily annex D, fire support) to properly focus them.

Battlefield Calculus (information and tools from Chapter 8, FM 3-09.30, final draft)

Battlefield calculus is not some logarithmic mathematical nightmare. We simply need to do some basic calculations, reference some doctrinal charts and matrices and convert the information into maneuver terms. Here are some references and additional discussion:

- HE or improved conventional munitions (ICM) are briefed to maneuver in terms of killer missions. Because 54 rounds is the magic number for at least one armor/mech vehicle casualty, we count one 54 round mission a killer mission. If we factor in a total mission time of ten minutes from initiation to impact ? average mission times during CTC rotations ? we can only shoot about five of these missions in an hour. Annex A of **FM 3-09.30** provides a great guide on pages A-6 through A-9 for methods of engagement on different target types. Chapter 8 goes into great detail for ICM employment.

- Illumination and smoke are briefed to maneuver elements in terms of minutes. This, of course, is at the mercy of several variables. With general planning factors (i.e. 90 rounds of 120mm mortar white phosphorous equals 15 minutes), the TF FSE can allocate the total number of smoke missions available and later shoot the missions in the mortar ballistic computer (MBC) with current meteorological (MET) data. During planning, don't get wrapped around wind direction and speed, relative humidity, or temperature gradient during COA development.

- FASCAM is briefed in terms of size, density, and duration. There are four basic uses for FA-delivered scatterable mines: interdiction or area denial, employment as an obstacle, augmenting an obstacle, or use against a target of opportunity. The best guide for FASCAM use is included in **FM 3-09.4,** ***TTPs for Fire Support for Brigade Operations***, annex A, pages 20-31.

- Planning for Army airspace command and control (A^2C^2). Deconflicting fires is not very difficult when aviation sticks to planned air corridors, can monitor the fires net of the unit that owns the terrain, and knows the current indirect firing locations. Suppression of enemy air defense (SEAD) target timing is triggered by time/distance from air coordination points (ACPs). You have to suppress the enemy ADA systems from the time they can effectively engage the lead aircraft until they can no longer engage the last aircraft.

A^2C^2 Clearance of Fires using Air Corridors and Altitude Separation

1. Do not overfly artillery position areas or mortar firing positions.
2. Stay below required AGL (above ground level).
3. Avoid indirect fire impact areas and effects.
4. Use planned air corridors.

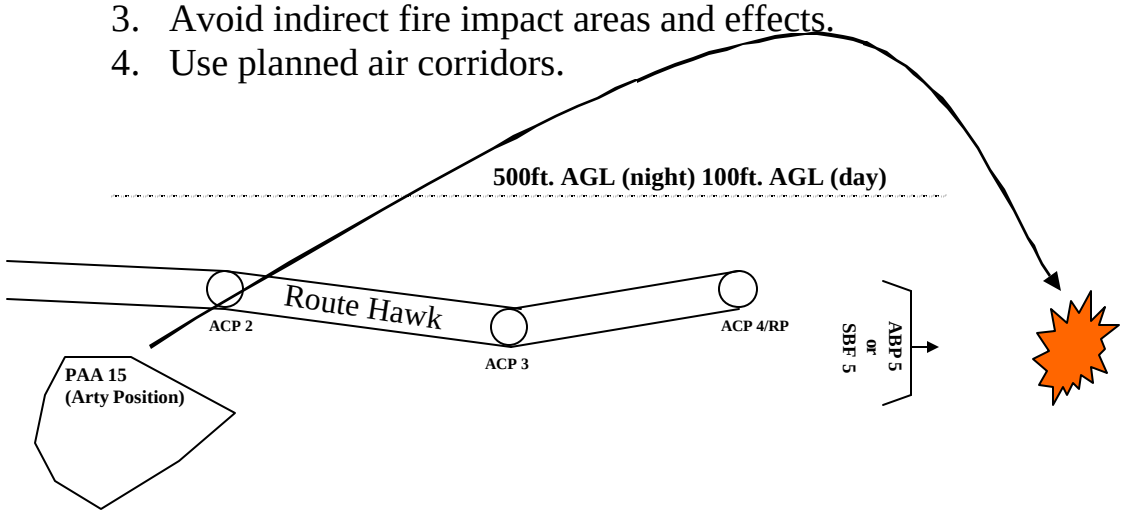

Figure 1

- Current free software and military systems are available to help us conduct observation planning. Examples of these terrain analysis software programs and military systems are: automated deep operations coordination system (ADOCS), advanced field artillery tactical data system (AFATDS), encoding services into *MrSID* format, *TerraBase II* terrain evaluation tool / *MicroDEM 5.12* terrain evaluation and visualization software, integrated training area management (ITAM), and *Falcon View* mission planning software. If your first experience using these programs is at a CTC, of course it will provide little value for the hours you'll lose learning to extract the information you need.

- Copperhead planning is black and white. Either you meet the requirements (like angle 'T'), or you don't. You need a footprint template from your local training aids support center and the S2's weather forecast to see if visibility is about 5000 meters with a cloud height of about 150 meters or better.

Once we've completed our estimate, we are ready to provide constructive input to the staff wargame. No matter how little time is available, the FSO must prioritize what can be completed. The outputs in **FM 3-09.30,** page 2-10, for course of action developments are:

- Concept of fires
- Draft fire support execution matrix (FSEM)
- Draft target list/overlay

- R&S plan (with collection/observation plan overlay)

While we are at the wargame, keep in mind the TF FSO must be focused with the wargame on the planning map and not with whatever causes him to go into the FSE or outside to talk to someone. Simultaneously, the FSO has to write the increasingly cryptic fires annex or everyone will be waiting on him again. When the TF FSO completes his portion of the TF OPORD, he can use the FSNCO for quality control. If it is confusing to him, it will also confuse the company commanders and company FSOs.

There are very few breaks for TF FSOs at the CTCs. There is not enough time to start fresh for every mission. The FSNCO must maintain and update the fire support estimate at all times. The FSE can only do this with an established system of tracking and posting the information. Each section in the TF TOC must have time after seeing the directed COA(s) to analyze how their estimate and guidance from higher affects the COA(s) prior to the start of the wargame. The TF FSO, like the rest of the staff, must have time to conduct the analysis and coordination required to make the wargame productive. The TF FSO needs tools and a standard process to quickly analyze the available information and guidance. This means he has to plan ahead prior to any deployment. The TF FSO can be an extremely valuable member of the maneuver staff if things are done right; or, he can truly hinder the entire process.